DNP20-2020-000144

Abstract for an Invited Paper
for the DNP20 Meeting of
the American Physical Society

Nuclear dynamics on current generation quantum devices[1]

ALESSANDRO ROGGERO, University of Washington

Studying the real-time dynamics of strongly correlated many-particle systems is one of the most promising applications of future fault-tolerant quantum computers. The current generation of quantum devices are however still too small and noisy to compete with classical calculations. In this talk I will present recent simulations carried on today's quantum devices of the time-dependent response in a very simple model for the triton, and discuss some of the challenges we face in fighting against the noise.

[1]This work is supported by the U.S. Department of Energy, Office of Science, Office of Advanced Scientific Computing Research (ASCR) quantum algorithm teams program, under field work proposal number ERKJ333 and by the Institute for Nuclear Theory under U.S. Department of Energy grant No. DE-FG02-00ER41132.